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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,257	12/15/2003	Chao-Cheng Lee	3722-0173P	1497
2292 7590 03/18/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER FLANDERS, ANDREW C				
ART UNIT 2615		PAPER NUMBER		
NOTIFICATION DATE 03/18/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

10/734,257

**Applicant(s)**

LEE ET AL.

**Examiner**

ANDREW C. FLANDERS

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumi (U.S. Patent 5,059,872).

An processing system for used in a multi-channel chip (Fig. 1), the processing system comprising:

a multiplexer for receiving a plurality of digital signals and selectively outputting the digital signals in a time-division manner according to a first control signal (Fig. 1 element 9; control signal from 18);

a digital-to-analog converter for receiving the digital signals in the time- division manner and converting the digital signals into a plurality of analog signals, wherein each of the digital signals is corresponding to one of the analog signals (Fig. 1 element 10);

a plurality of sample-and-hold circuits for selectively sampling the corresponding analog signals in the time-division manner and holding the corresponding analog signals for a predetermined period of time according to a second control signal (control signal from 30), wherein each of the sample-and-hold circuits is corresponding to one of the analog signals (Fig. 1 elements 21-26 and 51-56);

a plurality of output devices for amplifying the analog signals and outputting the amplified analog signals, wherein each of the output devices is corresponding to one of the analog signals(Fig. 1 111-113); and

a controller for outputting the first and the second control signals to control operations of the multiplexer and the sample-and-hold circuits (Fig. 1 element 60).

Matsumi does not explicitly disclose the system as an audio system or the output devices as speakers. However, Matsumi's device is disclosed to operate on digital and analog video signals. These signals are very closely related to digital and analog audio signals. The device disclosed in fig. 1 also has the exact same structure as claim 1 and thus would perform the same operations on a signal no matter what the encoded data may be. It would have been obvious to one of ordinary skill in the art to adapt the device disclosed by Matsumi to operate on audio signals in place of video signals. One would have been motivated to do so seeing as audio and video signals are very similar and Matsumi's device provides a correction scheme that would be desirable to apply to audio signals as well.

#### ***Allowable Subject Matter***

Claims 2 – 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 2 claims a de-multiplexer coupled to the digital-to-analog converter for receiving the corresponding analog signals and selectively outputting the corresponding analog signals to the sample-and-hold circuits in the time-division manner according to

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a third control signal. De-Multiplexers are notoriously well known in the art, however there would be no reason to add one after the D/A converter of Matsumi as the signal separation is done in other means.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shiomi (U.S. Patent 4,977,446).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW C. FLANDERS whose telephone number is (571)272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7546. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

acf

/Sinh N Tran/  
Supervisory Patent Examiner, Art Unit 2615